

REMARKS

35 U.S.C. § 103 Claim Rejections

Claims 10, 12, and 14-17

By the Office Action dated October 10, 2007, the Examiner has rejected claim 10, 12, and 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Addison (U.S. Patent No. 6,865,533) (hereinafter “Addison” in view of Pertrushin (U.S. Patent No. 6,151,571) (hereinafter “Pertrushin”). In order to form a proper obviousness rejection of a claim under 35 U.S.C. § 103(a), a collection of references together must teach or suggest each element of the claim, including the relationships between the elements. If any element is not fully taught by the combined references, the rejection cannot be sustained.

Evaluating Addison in view of Pertrushin in this light, it is appropriate to examine the portions of Addison in view of Pertrushin that the Examiner has pointed to as teaching the claimed elements of the rejected claims.

Claim 10

The Examiner asserted that

[r]e claim 10, Addison discloses a method for extracting opinions about a subject of interest from a text document (“a text is received into the memory of the computing device...the marked up text is then is then phonetically parsed using phonetic parsing rules”; Addison col 3 line 8-21) having a plurality of sentences, the subject associated with a plurality of features (“certain inflection, pauses, or accenting can be inferred...pragmatic rules match the specific voice feature with the marked up linguistic features...”; Addison col 12 line 1-15), the method comprising ... extracting from the document feature terms related to the features most relevant to the subject (“certain inflection, pauses, or accenting can be inferred...pragmatic rules match the specific voice feature with the marked up linguistic features...”; Addison col 12 line 1-15) for each sentence referring to a feature term, determining whether the sentence includes an opinion polarity (“recognize the meaning of the text and to identify the emotional nature of the message...”; Addison col 27

line 47 – col 28 line 7) about the feature term (“influenced prosody changes, based on the words in the text and their sequence”; Addison, col 3 line 55-63); and

for each sentence referring to the subject, determining whether the sentence includes an opinion polarity about the subject (“recognize the meaning of the text and to identify the emotional nature of the message...”; Addison col 27 line 47 – col 28 line 7) comprises . . .

(An opinion polarity is construed as the emotion of a term such as negative or positive expressions assigned by recognition of the emotion/opinion of a part of the sentence)

identifying opinion terms in the sentence using an opinion dictionary (“the word list is processed using dictionary information...”; Addison col 7 line 56 – col 8 line 15), each entry in the dictionary having an opinion term (“the lexicon comprises linguistic units divided into four classes”; Pertrushin col 58 line 42-54 & Fig. 2), a part-of-speech tag (‘Part of Speech’, Addison fig. 1), and an associated opinion polarity (“yielding a corpus containing 700 utterances with 140 utterances per emotional state...”; Pertrushin col 10 line 23-33).

(See Office Action, pages 3-4.)

The Examiner admitted that “Addison fails to teach a dictionary or similar table having an opinion term and an associated polarity.” (See Office Action, page 4.) The Examiner then asserted that

[b]oth Addison and Pertrushin teach a dictionary/lexicon used to store terms and information related to the terms. Pertrushin teaches a corpus with utterances for each emotional state (Pertrushin col 10 line 23-33). Pertrushin also teaches terms such as adverbs, verbs, adjectives, and conjunctions, where these word types are a part of speech. Therefore, the combined teachings of Addison and Pertrushin as a whole would have rendered obvious a dictionary containing an opinion term, opinion polarity,

and a part of speech tag. Storing recognized emotion/opinion terms and the associated polarity would aid in the training process for recognizing parts of speech.

5 (See Office Action, pages 4-5.)

The Examiner next stated

10 for each sentence having a feature term and an opinion term, parsing the sentence with an English parser ('26' & '28' Addison fig. 1) to identify grammatical components ("generating three tokens for each word..."; Addison col 9 line 46-60) in the sentence and relationships between said components ("connectors that specify relationships between two or more nominal terms..."; Pertrushin col 58 line 42-54 & Fig. 2), and identifying
15 an opinion polarity ("recognize the meaning of the text and to identify the emotional nature of the message..."; Addison col 27 line 47 – col 28 line 7) associated with said feature term ("certain inflection, pauses, or accenting can be inferred...pragmatic rules match the specific voice feature with the marked up linguistic features..."; Addison col 12 line 1-15) using the opinion dictionary ("the word list is processed using dictionary
20 information..."; Addison col 7 line 56 – col 8 line 15).

(See Office Action, page 5.)

The Examiner then admitted that "Addison fails to specifically disclose the identification of a relationship between components." (See Office Action, page 5.) The
25 Examiner then asserted that

Pertrushin teaches the specification of the relationship between two or more nominal terms where the relationship is described in terms of action (Pertrushin col 58 line 42-54). Therefore, the combined teaching of
30 Addison and Pertrushin as a whole would have rendered obvious identifying grammatical components in a sentence and relationships

between components prior to the identification of opinion terms and polarity.

(See Office Action, page 6.)

- 5 To the extent the Examiner's language at pages 3-6 of the Office Action can be understood, it appears that the Examiner has asserted the following correspondence between Addison and Pertrushin and claim 10:

Claim 10	<u>Addison</u>	<u>Pertrushin</u>
10. A method for extracting opinions about a subject of interest from a text document having a plurality of sentences, the subject associated with a plurality of features, the method comprising:	<u>Addison</u> does not teach this claim element.	<u>Pertrushin</u> does not teach this claim element.
extracting from the document feature terms related to the features <i>most relevant to the subject</i> ;	<u>Addison</u> does not teach this claim element.	<u>Pertrushin</u> does not teach this claim element.
for each sentence referring to a feature term, determining whether the sentence includes an opinion polarity about the feature term; and	-	<u>Pertrushin</u> does not teach this claim element.
for each sentence referring to the <i>subject</i> , determining whether the sentence includes an opinion polarity about the	<u>Addison</u> does not teach this claim element.	<u>Pertrushin</u> does not teach this claim element.

<p><i>subject,</i></p> <p>wherein the determining comprises</p> <p><i>identifying opinion terms</i> in the sentence using an opinion dictionary, each entry in the dictionary having an <i>opinion term</i>, a part-of-speech tag, and an associated opinion polarity,</p> <p>for each sentence having a feature term and an <i>opinion term</i>, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components, and</p> <p>identifying an opinion polarity associated with said feature term using the <i>opinion dictionary</i>.</p>	<p><u>Addison</u> does not teach this claim feature.</p> <p><u>Addison</u> does not teach this claim feature.</p> <p><u>Addison</u> does not teach this claim feature.</p>	<p><u>Pertrushin</u> does not teach this claim feature.</p> <p><u>Pertrushin</u> does not teach this claim feature.</p> <p><u>Pertrushin</u> does not teach this claim feature.</p>
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In reviewing the cited portions of Addison and Pertrushin, however, it becomes apparent that Addison and Pertrushin have been generalized, and, in fact, do not support the position asserted by the Examiner.

**extracting from the document feature terms related to the
features most relevant to the subject**

In particular, Addison and Pertrushin, alone or in combination, fail to teach or suggest “extracting from the document feature terms related to the features *most relevant to the subject*”, as required by claim 10. Addison does not disclose relating feature terms to “the features *most relevant to the subject*”. (See Addison, col. 12, lines 1-15.) In fact, Addison does not mention identifying or recognizing any particular subject or topic. Thus, Addison cannot teach or suggest “extracting from the document feature terms related to the features *most relevant to the subject*”. Pertrushin also does not disclose relating feature terms to “the features *most relevant to the subject*”. (See Pertrushin, col. 1, lines 39-57 and col. 13, lines 23-45.) In fact, Pertrushin does not mention identifying or recognizing any particular subject or topic. Thus, Pertrushin cannot teach or suggest “extracting from the document feature terms related to the features *most relevant to the subject*”. Therefore, Addison and Pertrushin, alone or in combination, cannot teach or suggest the claim 10 element of “extracting from the document feature terms related to the features *most relevant to the subject*”.

**for each sentence referring to the subject, determining whether
the sentence includes an opinion polarity about the subject**

Also, Addison and Pertrushin, alone or in combination, fail to teach or suggest “for each sentence referring to the *subject*, determining whether the sentence includes an opinion polarity about the *subject*,” as required by claim 10. Addison does not disclose identifying or recognizing any particular subject or topic. (See Addison, col. 12, lines 1-15 and col. 27, line 47 to col. 28, line 7.) Thus, Addison cannot teach or suggest “for each sentence referring to the *subject*, determining whether the sentence includes an opinion polarity about the *subject*”. Pertrushin also does not identifying or recognizing any particular subject or topic. (See Pertrushin, col. 1, lines 39-57 and col. 13, lines 23-45.) Thus, Pertrushin cannot teach or suggest “for each sentence referring to the *subject*, determining whether the sentence includes an opinion polarity about the *subject*”.

Therefore, Addison and Pertrushin, alone or in combination, cannot teach or suggest the claim 10 element of “for each sentence referring to the *subject*, determining whether the sentence includes an opinion polarity about the *subject*”.

identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an *opinion term*, a part-of-speech tag, and an associated opinion polarity

Further, Addison and Pertrushin, alone or in combination, fail to teach or suggest “*identifying opinion terms* in the sentence using an opinion dictionary, each entry in the dictionary having an *opinion term*, a part-of-speech tag, and an associated opinion polarity,” as required by claim 10. The Examiner admitted that “Addison fails to teach a dictionary or similar table having an opinion term and an associated polarity.” (See Office Action, page 4.) Thus, Addison cannot teach or suggest “*identifying opinion terms* in the sentence using an opinion dictionary, each entry in the dictionary having an *opinion term*, a part-of-speech tag, and an associated opinion polarity”. Although Pertrushin discloses “things”, “connectors”, “descriptors”, and “logical connectors”, Pertrushin does not disclose *identifying opinion terms* or a dictionary having an *opinion term*. (See Pertrushin, col. 58, line 42-54 and Figure 2.) Thus, Pertrushin cannot teach or suggest “*identifying opinion terms* in the sentence using an opinion dictionary, each entry in the dictionary having an *opinion term*, a part-of-speech tag, and an associated opinion polarity”.

Therefore, Addison and Pertrushin, alone or in combination, cannot teach or suggest the claim 10 element of “*identifying opinion terms* in the sentence using an opinion dictionary, each entry in the dictionary having an *opinion term*, a part-of-speech tag, and an associated opinion polarity”.

for each sentence having a feature term and an *opinion term*, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components

In addition, Addison and Pertrushin, alone or in combination, fail to teach or suggest “for each sentence having a feature term and an *opinion term*, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components,” as required by claim 10. Addison does not disclose or mention *opinion terms*. (See Addison, col. 7, line 56 to col. 8, line 15.) Thus,

Addison cannot teach or suggest “for each sentence having a feature term and an *opinion term*, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components”. Although Pertrushin discloses “things”, “connectors”, “descriptors”, and “logical connectors”, Pertrushin does not disclose *opinion terms*. (See Pertrushin, col. 58, line 42-54 and Figure 2.) Thus, Pertrushin cannot teach or suggest “for each sentence having a feature term and an *opinion term*, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components”. Therefore, Addison and Pertrushin, alone or in combination, cannot teach or suggest the claim 10 element of “for each sentence having a feature term and an *opinion term*, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components”.

**identifying an opinion polarity associated with said feature term
using the opinion dictionary**

In addition, Addison and Pertrushin, alone or in combination, fail to teach or suggest “identifying an opinion polarity associated with said feature term using the *opinion dictionary*,” as required by claim 10. The Examiner admitted that “Addison fails to teach a dictionary or similar table having an opinion term and an associated polarity.” (See Office Action, page 4.) Also, Addison does not disclose or mention *opinion terms*. (See Addison, col. 7, line 56 to col. 8, line 15.) Thus, Addison cannot teach or suggest “identifying an opinion polarity associated with said feature term using the *opinion dictionary*”. Although Pertrushin discloses “things”, “connectors”, “descriptors”, and “logical connectors”, Pertrushin does not disclose *opinion terms*. (See Pertrushin, col. 58, line 42-54 and Figure 2.) Thus, Pertrushin cannot teach or suggest “identifying an opinion polarity associated with said feature term using the *opinion dictionary*”. Therefore, Addison and Pertrushin, alone or in combination, cannot teach or suggest the claim 10 element of “identifying an opinion polarity associated with said feature term using the *opinion dictionary*”. It is therefore clear that Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 10 and, therefore, a rejection of claim 10 under 35 U.S.C. § 103(a) would be inappropriate.

Claim 12

Since dependent claim 12 depends on claim 10 and since Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 10, Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 12, and, therefore, a rejection of claim 12 under 35 U.S.C. § 103(a) is inappropriate.

Claims 14 and 15

Since dependent claims 14 and 15 depend on dependent claim 12 and since Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 12, Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 14 or claim 15, and, therefore, a rejection of claim 14 or claim 15 under 35 U.S.C. § 103(a) is inappropriate.

Claims 16 and 17

Since dependent claims 16 and 17 depend on dependent claim 15 and since Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 15, Addison and Pertrushin, alone or in combination, cannot teach or suggest each element of claim 16 or claim 17, and, therefore, a rejection of claim 16 or claim 17 under 35 U.S.C. § 103(a) is inappropriate.

Conclusion

It is therefore clear that claims 10, 12, and 14-17 comply with the requirements of 35 U.S.C. §§ 101, 102, 103, and 112. The application is therefore in condition for allowance. Early notification to that effect is respectfully solicited.

In the event that any issue remains unresolved, the Examiner is invited to telephone the undersigned at 408-927-3377.

Respectfully Submitted,



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Leonard T. Guzman

Reg. No. 46,308

IBM Almaden Research Center
650 Harry Road
C45A/J2B
San Jose, CA 95120

Phone Number: 408-927-3377

Facsimile Number: 408-927-3375